

Notice of Allowability

Application No.

10/528,070

Examiner

James D. Ewart

Applicant(s)

AOYAMA ET AL.

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE dated 10-24-2006.
2. ☒ The allowed claim(s) is/are 1-14 renumbered 1-3,7,9,11,12,14,4,10,6,8,5 & 13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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Examiner's Amendment

1. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant and amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

Authorization for this Examiner's Amendment was given in a telephone interview with Mr. Blum on 12 January 2007.

The application has been amended as follows:

In claims 6, the phrase "second antenna selecting means for selecting an antenna whose tilt angle is to be reduced;" has been changed to -- second antenna selecting means for selecting an antenna whose tilt angle is to be increased; --.

Allowable Subject Matter

2. Claims 1-14 are allowed. The reason for allowable subject matter is provided below:

Referring to claims 1 and 6, the references cited do not teach a method for deciding tilt angles of antennas having directivity in a vertical plane, which are provided in a plurality of radio base stations constituting a radio communication system, said method comprising: a first step of *selecting an antenna whose tilt angle is to be reduced; a second step of calculating a deterioration rate of the system more than once*, by changing the tilt angle, at the time when a tilt angle of the antenna selected in the first step is reduced; a third step of *selecting an antenna whose tilt angle is to be increased; a fourth step of calculating a deterioration rate of the system* more than once, by changing the tilt angle, at the time when a tilt angle of the antenna

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selected in the third step is increased; a fifth step of outputting the tilt angle corresponding to the smallest deterioration rate in the deterioration rate of the entire-system calculated in the second step and the deterioration rate of the system calculated in the fourth step a sixth step being performed after the first step and the second step, wherein it is determined whether processes of the first step and the second step are to be repeated; a seventh step being performed after the third step and the fourth step, wherein it is determined whether processes of the third step and the fourth step are to be repeated; and *wherein the deterioration rate is a ratio of the points where reception power or quality is lower than a predetermined value within specified coverage*. The references cited only teach optimizing a single antenna and do not analyze the performance of the system nor select antennas whose tilt angle is to be increased or decreased.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Ewart whose telephone number is (571) 272-7864. The examiner can normally be reached on M-F 7am - 4pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571)272-7872. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2600.


J Ewart

January 12, 2007


WILLIAM TROST
SUPERVISORY PATENT EXAMINER
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